



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
19.12.2012 Bulletin 2012/51

(51) Int Cl.:
G01N 21/954 ^(2006.01) **F01D 5/00** ^(2006.01)
F01D 21/00 ^(2006.01) **G02B 23/24** ^(2006.01)

(43) Date of publication A2:
05.09.2012 Bulletin 2012/36

(21) Application number: **12157774.6**

(22) Date of filing: **01.03.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(72) Inventor: **TRZCINSKI, Frank J.**
Ellington, CT Connecticut 06029 (US)

(74) Representative: **Leckey, David Herbert**
Dehns
10 Salisbury Square
London
Greater London EC4Y 8JD (GB)

(30) Priority: **03.03.2011 US 201113039596**

(71) Applicant: **United Technologies Corporation**
Hartford, CT 06101 (US)

(54) **Portable boroscope for inspecting turbomachine blades**

(57) A portable boroscope assembly (66) for inspecting passages within a turbomachine blade includes a boroscope probe (68) and a display screen (78). The display screen (78) is configured to show images of areas in-

spected by the boroscope probe (68). A battery (76) powers the display screen (78). A protective case (82) holds at least the display screen (78) and the battery (76). The protective case (82) defines an aperture (86). The display screen (78) is viewable through the aperture (86).

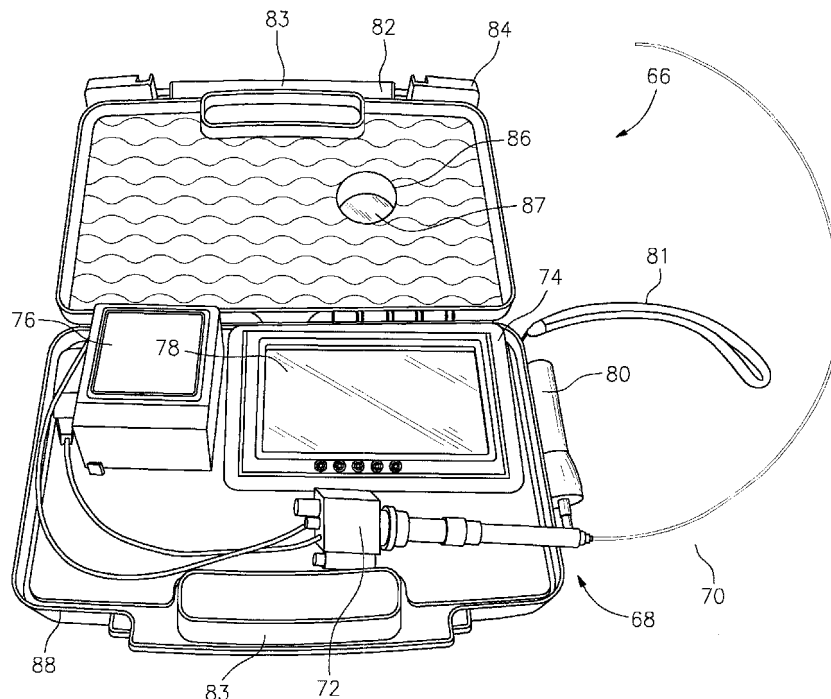


FIG. 4



EUROPEAN SEARCH REPORT

 Application Number
 EP 12 15 7774

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2009/225159 A1 (SCHNEIDER SCOTT [US] ET AL) 10 September 2009 (2009-09-10)	1-3,5-8, 10,11	INV. G01N21/954 F01D5/00 F01D21/00 G02B23/24
Y	* abstract; figures 1,15 * * paragraphs [0003], [0004], [0007], [0046], [0047], [0051], [0058], [0061] *	4,9, 12-15	
Y	US 6 153 889 A (JONES ALAN R [GB]) 28 November 2000 (2000-11-28) * column 1, lines 63-65 *	4,9, 12-15	
X	WO 2009/055134 A1 (GE INSPECTION TECHNOLOGIES LP [US]; DELMONICO JAMES J [US]; KARPEN THO) 30 April 2009 (2009-04-30) * paragraphs [0001], [0002], [0004], [0010], [0013] *	1-3,5, 10,11	TECHNICAL FIELDS SEARCHED (IPC) G01N F01D G02B B64F
X	US 2010/033986 A1 (SCHOBER JEFFREY C [US] ET AL) 11 February 2010 (2010-02-11) * paragraphs [0003], [0004], [0027] - [0030]; figure 1 *	1-3,5,10	
X	US 2007/070340 A1 (KARPEN THOMAS W [US]) 29 March 2007 (2007-03-29) * paragraphs [0003], [0076]; figure 1A *	1-3,5, 10,11	
X	US 2006/167340 A1 (PEASE ALFRED A [US] ET AL) 27 July 2006 (2006-07-27) * abstract; figure 1 * * paragraphs [0003] - [0005], [0036], [0040], [0041] *	1-3,5, 10,11	
X	US 2007/129604 A1 (HATCHER CLIFFORD [US] ET AL) 7 June 2007 (2007-06-07) * abstract; figure 1 * * paragraphs [0003], [0004], [0011], [0014], [0015], [0018] *	1-3,5-8, 10,11	
The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 12 November 2012	Examiner Brison, Olivier
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

 1
 EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 15 7774

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-11-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009225159 A1	10-09-2009	AU 2009221762 A1	11-09-2009
		CA 2717776 A1	11-09-2009
		CN 102017622 A	13-04-2011
		DE 112009000536 T5	10-02-2011
		GB 2470327 A	17-11-2010
		US 2009225159 A1	10-09-2009
		US 2012224047 A1	06-09-2012
		WO 2009111740 A2	11-09-2009
US 6153889 A	28-11-2000	DE 69938470 T2	10-07-2008
		EP 0943916 A2	22-09-1999
		US 6153889 A	28-11-2000
WO 2009055134 A1	30-04-2009	CN 101910909 A	08-12-2010
		EP 2206010 A1	14-07-2010
		JP 2011502277 A	20-01-2011
		US 2009109045 A1	30-04-2009
		WO 2009055134 A1	30-04-2009
US 2010033986 A1	11-02-2010	NONE	
US 2007070340 A1	29-03-2007	NONE	
US 2006167340 A1	27-07-2006	US 2006167340 A1	27-07-2006
		WO 2006086106 A2	17-08-2006
US 2007129604 A1	07-06-2007	NONE	